Amendments to the specification, with markings to show changes made:

Please replace the paragraph at page 2, lines 16-20, with the following amended paragraph:

Periodontal bacteria have been shown to migrate into surrounding soft tissues and survive within endothelial cells, macrophage and perivascular cells. Periodontal bacteria ~~are also~~ can also survive in hard periodontal tissue including dentin, bone and cementum tissue. Periodontal bacteria can also enter into the general circulation system through various systemic routes and mechanisms.

Please replace the paragraph at page 8, lines 4-11, with the following amended paragraph:

When the laser source is a Nd:YAG laser source, laser pulses preferably have energy concentrations of ~~10 J/cm2~~ 10 J/cm^2 or greater within the tissue(s) at the site of pathogen eradication. However, the specific dosimetry that is chosen is dependent on the optical properties of the irradiated tissue(s) including, but not limited to, transmission through non-target tissues and absorption coefficients of target tissues at the light source wavelength. Preferably, laser radiation is delivered to each area treated with a laser fluence of 350 Joule/cm^2 or greater and total laser energy of 2 Joules or more, in order to ensure that target pathogens within the effective treatment volume are eradicated.

Please replace the paragraph at page 11, lines 8-14, with the following amended paragraph:

Figure 2A shows a cross-sectional view 200 of a periodontal pocket 220 and surrounding periodontal tissues. With periodontal disease, the soft periodontal tissue 205 become detached or separated from the cementum 203, which is a layer of hard tissue on the outer surface of the root. Below the cementum 203 is the dentin 201. Normally, the periodontal ligament(s) attach up to cemento-enamel junction 208. As periodontal disease progresses, this attachment level recedes apically (toward the root). The ultimate result can be loss of attachment to the bone 207 ~~an~~ and loss of the tooth.